

REMARKS

In the Official Action mailed on **26 July 2006**, the Examiner reviewed claims 1-33. Claims 1-33 were objected to under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Claims 1-33 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kindberg et al (*A Web-Based Nomadic Computing System*, hereinafter “Kindberg”) in further view of UPnP Forum (*UPnP Device Architecture*, hereinafter “UPnP”), and further in view of Waldo (“The JINI Architecture for Network-Centric Computing” hereinafter “Waldo”) and Yan et al (U.S. Patent 6,003,065, hereinafter “Yan”).

Rejections under 35 U.S.C. §112

Claims 1-33 were objected to under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Examiner states that claims 1, 12, and 13 recite a limitation wherein “the second component and the first component do not share a standard communication protocol,” for which Applicant has cited paragraph 0051, among others, as support for this limitation. Examiner further states that paragraph 0051 contradicts the claims as written (as well as paragraphs 0023 and 0032 of the instant specification) by stating that as part of the discovery process the components necessarily use a standard communications protocol (such as found in Bluetooth, UDDI, or Jini) in order to communicate the information necessary for establishing a universal interface.

Applicant respectfully disagrees. Paragraph 0051 states “In one embodiment of the present invention, component 20 discovers component 21, component 22, component 23, and component 24 using a variety of discovery systems such as the Bluetooth™ Service Location Protocol (“SLP”) developed by Bluetooth SIG, inc., the Universal Description, Discovery, and Integration Protocol (“UDDI”), developed by the Ariba, IBM, and Microsoft Corps., the various Jini™ system discovery protocols or simple lookup in a name server, for

example, all of which are hereby incorporated by reference in their entirety. Discovered components 21-24 each return data objects 21-24b, respectively, to component 20.

Applicant respectfully points out that SLP, UDDI, and Jini are not communication protocols. SLP, UDDI, and Jini are discovery systems that typically require underlying communication protocols (such as Bluetooth™, Simple Object Access Protocol (SOAP), and Common Object Request Broker Architecture (CORBA)) to operate. However, paragraph 0051 also states “or simple lookup in a name server” which requires no interaction directly between the components at all. It would be possible, for example, for component 20 to communicate with the name server via Bluetooth, and for component 21 to communicate with the name server via the Transmission Control Protocol (TCP) over a physical network connection. In this example, the name server would have data object 21b on behalf of component 21, and when component 20 discovers component 21 via the name server, component 20 receives the data object 21b which includes the executable code.

Hence, Applicant respectfully submits that the limitation wherein “the second component and the first component do not share a standard communication protocol,” is not contradicted by paragraph 0051 of the instant specification. Applicant also submits that for this reason, claims 1-33 are in compliance with 35 U.S.C. §112.

Rejections under 35 U.S.C. §103(a)

Independent claims 1, 12, and 23, were rejected as being unpatentable over Kindberg in further view of UPnP, and in further view of Waldo and Yan. Applicant acknowledges that UPnP teaches seamless, zero-configuration networking for a breadth of devices. With UPnP, each device has to already support a common protocol with other devices that the device wishes to communicate with. As previously discussed, UPnP teaches the use of textual

interface descriptions to facilitate initialization as well as discovery of common communication protocols among the devices.

Applicant also acknowledges that Waldo discloses a universal interface comprising both executable code and data. However, Applicant respectfully points out that Waldo teaches exchanging code between two devices that are both running Java, and have a clearly established communication session. Applicant was aware of the Jini™ architecture at the time the present application was filed, and the Jini™ architecture was incorporated by reference in paragraph [0004].

In addition, Waldo teaches the sharing of Java code to allow a second client to replicate the functionality of a first client via code mobility.

In contrast to the cited prior art, the present invention facilitates establishing a connection between two devices in situations where the two devices do not share a common programming language, communication protocol, or an established communication session. For example, the first client can be a printer operating in a UNIX environment and using a line-based communication medium, and the second client can be a computer using the Microsoft Windows operating environment, using a line-based communication medium, and a different communication protocol than that of the first client.

Applicant agrees that the sharing of code in an environment where the first component and the second component have both an established communication channel and a common computing environment is obvious. However, in the case where the first and second clients do not have an established communication channel, and do not share a standard communication protocol, such a solution is not practical. Furthermore, such a connection is not apparent in any combination of the teachings of Kindberg, UPnP, Waldo, and Yan.


Hence, Applicant respectfully submits that independent claims 1, 12, and 23, as presently amended are in condition for allowance. Applicant also submits that claims 2-11, which depend upon claim 1, claims 13-22, which depend upon claim 12, and claims 24-33, which depend upon claim 23, are for the same

reasons in condition for allowance and for reasons of the unique combinations recited in such claims.

CONCLUSION

It is submitted that the present application is presently in form for allowance. Such action is respectfully requested.

Respectfully submitted,

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